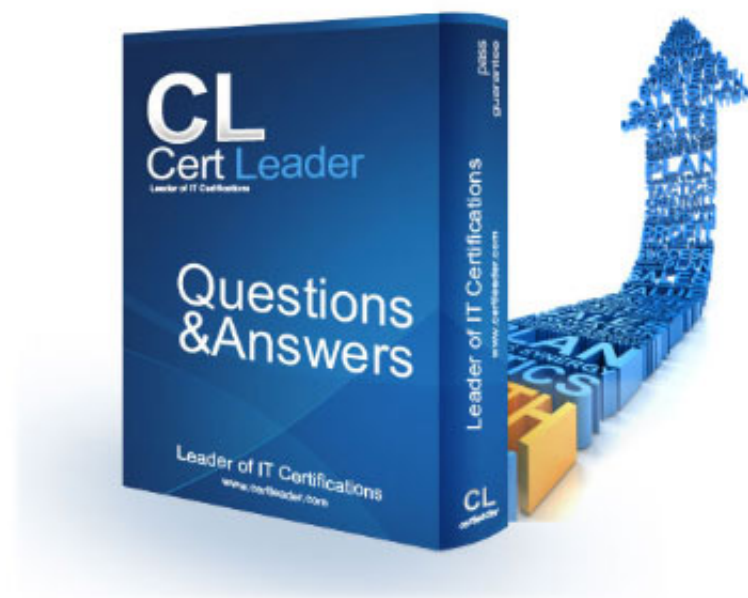


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NEW QUESTION 1

- (Topic 1)

Which access control model achieves data integrity through well-formed transactions and separation of duties?

- A. Clark-Wilson model
- B. Biba model
- C. Non-interference model
- D. Sutherland model

Answer: A

Explanation:

The Clark-Wilson model differs from other models that are subject- and object- oriented by introducing a third access element programs resulting in what is called an access triple, which prevents unauthorized users from modifying data or programs. The Biba model uses objects and subjects and addresses integrity based on a hierarchical

lattice of integrity levels. The non-interference model is related to the information flow model with restrictions on the information flow. The Sutherland model approaches integrity by focusing on the problem of inference.

Source: ANDRESS, Mandy, Exam Cram CISSP, Coriolis, 2001, Chapter 2: Access Control Systems and Methodology (page 12).

And: KRAUSE, Micki & TIPTON, Harold F., Handbook of Information Security Management, CRC Press, 1997, Domain 1: Access Control.

NEW QUESTION 2

- (Topic 1)

Smart cards are an example of which type of control?

- A. Detective control
- B. Administrative control
- C. Technical control
- D. Physical control

Answer: C

Explanation:

Logical or technical controls involve the restriction of access to systems and the protection of information. Smart cards and encryption are examples of these types of control.

Controls are put into place to reduce the risk an organization faces, and they come in three main flavors: administrative, technical, and physical. Administrative controls are commonly referred to as ??soft controls?? because they are more management-oriented. Examples of administrative controls are security documentation, risk management, personnel security, and training. Technical controls (also called logical controls) are software or hardware components, as in firewalls, IDS, encryption, identification and authentication mechanisms. And physical controls are items put into place to protect facility, personnel, and resources. Examples of physical controls are security guards, locks, fencing, and lighting.

Many types of technical controls enable a user to access a system and the resources within that system. A technical control may be a username and password combination, a Kerberos implementation, biometrics, public key infrastructure (PKI), RADIUS, TACACS +, or authentication using a smart card through a reader connected to a system. These technologies verify the user is who he says he is by using different types of authentication methods. Once a user is properly authenticated, he can be authorized and allowed access to network resources.

Reference(s) used for this question:

Harris, Shon (2012-10-25). CISSP All-in-One Exam Guide, 6th Edition (p. 245). McGraw- Hill. Kindle Edition.

and

KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, John Wiley & Sons, 2001, Chapter 2: Access control systems (page 32).

NEW QUESTION 3

- (Topic 1)

What is the main concern with single sign-on?

- A. Maximum unauthorized access would be possible if a password is disclosed.
- B. The security administrator's workload would increase.
- C. The users' password would be too hard to remember.
- D. User access rights would be increased.

Answer: A

Explanation:

A major concern with Single Sign-On (SSO) is that if a user's ID and password are compromised, the intruder would have access to all the systems that the user was authorized for.

The following answers are incorrect:

The security administrator's workload would increase. Is incorrect because the security administrator's workload would decrease and not increase. The admin would not be responsible for maintaining multiple user accounts just the one.

The users' password would be too hard to remember. Is incorrect because the users would have less passwords to remember.

User access rights would be increased. Is incorrect because the user access rights would not be any different than if they had to log into systems manually.

NEW QUESTION 4

- (Topic 1)

Crime Prevention Through Environmental Design (CPTED) is a discipline that:

- A. Outlines how the proper design of a physical environment can reduce crime by directly affecting human behavior.
- B. Outlines how the proper design of the logical environment can reduce crime by directly affecting human behavior.
- C. Outlines how the proper design of the detective control environment can reduce crime by directly affecting human behavior.
- D. Outlines how the proper design of the administrative control environment can reduce crime by directly affecting human behavior.

Answer: A

Explanation:

Crime Prevention Through Environmental Design (CPTED) is a discipline that outlines how the proper design of a physical environment can reduce crime by directly affecting human behavior. It provides guidance about lost and crime prevention through proper facility construction and environmental components and procedures.

CPTED concepts were developed in the 1960s. They have been expanded upon and have matured as our environments and crime types have evolved. CPTED has been used not just to develop corporate physical security programs, but also for large-scale activities such as development of neighborhoods, towns, and cities. It addresses landscaping, entrances, facility and neighborhood layouts, lighting, road placement, and traffic circulation patterns. It looks at microenvironments, such as offices and rest-rooms, and macroenvironments, like campuses and cities.

Reference(s) used for this question:

Harris, Shon (2012-10-18). CISSP All-in-One Exam Guide, 6th Edition (p. 435). McGraw- Hill. Kindle Edition.

and

CPTED Guide Book

NEW QUESTION 5

- (Topic 1)

What is called the type of access control where there are pairs of elements that have the least upper bound of values and greatest lower bound of values?

- A. Mandatory model
- B. Discretionary model
- C. Lattice model
- D. Rule model

Answer: C

Explanation:

In a lattice model, there are pairs of elements that have the least upper bound of values and greatest lower bound of values.

Reference(s) used for this question:

KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 34.

NEW QUESTION 6

- (Topic 1)

Which of the following biometric characteristics cannot be used to uniquely authenticate an individual's identity?

- A. Retina scans
- B. Iris scans
- C. Palm scans
- D. Skin scans

Answer: D

Explanation:

The following are typical biometric characteristics that are used to uniquely authenticate an individual's identity:

Fingerprints Retina scans Iris scans Facial scans Palm scans Hand geometry Voice

Handwritten signature dynamics

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 39.

And: HARRIS, Shon, All-In-One CISSP Certification Exam Guide, McGraw-Hill/Osborne, 2002, chapter 4: Access Control (pages 127-131).

NEW QUESTION 7

- (Topic 1)

Which of the following is a trusted, third party authentication protocol that was developed under Project Athena at MIT?

- A. Kerberos
- B. SESAME
- C. KryptoKnight
- D. NetSP

Answer: A

Explanation:

Kerberos is a trusted, third party authentication protocol that was developed under Project Athena at MIT.

Kerberos is a network authentication protocol. It is designed to provide strong authentication for client/server applications by using secret-key cryptography. A free implementation of this protocol is available from the Massachusetts Institute of Technology. Kerberos is available in many commercial products as well.

The Internet is an insecure place. Many of the protocols used in the Internet do not provide any security. Tools to "sniff" passwords off of the network are in common use by systems crackers. Thus, applications which send an unencrypted password over the network are extremely vulnerable. Worse yet, other client/server applications rely on the client program to be "honest" about the identity of the user who is using it. Other applications rely on the client to restrict its activities to those which it is allowed to do, with no other enforcement by the server.

Some sites attempt to use firewalls to solve their network security problems. Unfortunately, firewalls assume that "the bad guys" are on the outside, which is often a very bad

assumption. Most of the really damaging incidents of computer crime are carried out by insiders. Firewalls also have a significant disadvantage in that they restrict how your users can use the Internet. (After all, firewalls are simply a less extreme example of the dictum that there is nothing more secure than a computer which is not connected to the network --- and powered off!) In many places, these restrictions are simply unrealistic and unacceptable.

Kerberos was created by MIT as a solution to these network security problems. The Kerberos protocol uses strong cryptography so that a client can prove its identity to a server (and vice versa) across an insecure network connection. After a client and server have used Kerberos to prove their identity, they can also encrypt all of their communications to assure privacy and data integrity as they go about their business.

Kerberos is freely available from MIT, under a copyright permission notice very similar to the one used for the BSD operating and X11 Windowing system. MIT provides Kerberos in source form, so that anyone who wishes to use it may look over the code for themselves and assure themselves that the code is trustworthy. In addition, for those who prefer to rely on a professional supported product, Kerberos is available as a product from many different vendors.

In summary, Kerberos is a solution to your network security problems. It provides the tools of authentication and strong cryptography over the network to help you

secure your information systems across your entire enterprise. We hope you find Kerberos as useful as it has been to us. At MIT, Kerberos has been invaluable to our Information/Technology architecture.

KryptoKnight is a Peer to Peer authentication protocol incorporated into the NetSP product from IBM.

SESAME is an authentication and access control protocol, that also supports communication confidentiality and integrity. It provides public key based authentication along with the Kerberos style authentication, that uses symmetric key cryptography. Sesame supports the Kerberos protocol and adds some security extensions like public key based authentication and an ECMA-style Privilege Attribute Service. The complete Sesame protocol is a two step process. In the first step, the client successfully authenticates itself to the Authentication Server and obtains a ticket that can be presented to the Privilege Attribute Server. In the second step, the initiator obtains proof of his access rights in the form of Privilege Attributes Certificate (PAC). The PAC is a specific form of Access Control Certificate as defined in the ECMA-219 document. This document describes the extensions to Kerberos for public key based authentication as adopted in Sesame. SESAME, KryptoKnight, and NetSP never took off and the protocols are no longer commonly used.

References:

<http://www.cmf.nrl.navy.mil/CCS/people/kenh/kerberos-faq.html#whatis> and

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 40.

NEW QUESTION 8

- (Topic 1)

Which of the following is an example of a passive attack?

- A. Denying services to legitimate users
- B. Shoulder surfing
- C. Brute-force password cracking
- D. Smurfing

Answer: B

Explanation:

Shoulder surfing is a form of a passive attack involving stealing passwords, personal identification numbers or other confidential information by looking over someone's shoulder. All other forms of attack are active attacks, where a threat makes a modification to the system in an attempt to take advantage of a vulnerability.

Source: HARRIS, Shon, All-In-One CISSP Certification Exam Guide, McGraw- Hill/Osborne, 2002, chapter 3: Security Management Practices (page 63).

NEW QUESTION 9

- (Topic 1)

Which of the following access control techniques best gives the security officers the ability to specify and enforce enterprise-specific security policies in a way that maps naturally to an organization's structure?

- A. Access control lists
- B. Discretionary access control
- C. Role-based access control
- D. Non-mandatory access control

Answer: C

Explanation:

Role-based access control (RBAC) gives the security officers the ability to specify and enforce enterprise-specific security policies in a way that maps naturally to an organization's structure. Each user is assigned one or more roles, and each role is assigned one or more privileges that are given to users in that role. An access control list (ACL) is a table that tells a system which access rights each user has to a particular system object. With discretionary access control, administration is decentralized and owners of resources control other users' access. Non-mandatory access control is not a defined access control technique.

Source: ANDRESS, Mandy, Exam Cram CISSP, Coriolis, 2001, Chapter 2: Access Control Systems and Methodology (page 9).

NEW QUESTION 10

- (Topic 1)

In which of the following model are Subjects and Objects identified and the permissions applied to each subject/object combination are specified. Such a model can be used to quickly summarize what permissions a subject has for various system objects.

- A. Access Control Matrix model
- B. Take-Grant model
- C. Bell-LaPadula model
- D. Biba model

Answer: A

Explanation:

An access control matrix is a table of subjects and objects indicating what actions individual subjects can take upon individual objects. Matrices are data structures that programmers implement as table lookups that will be used and enforced by the operating system.

This type of access control is usually an attribute of DAC models. The access rights can be assigned directly to the subjects (capabilities) or to the objects (ACLs). Capability Table

A capability table specifies the access rights a certain subject possesses pertaining to specific objects. A capability table is different from an ACL because the subject is bound to the capability table, whereas the object is bound to the ACL.

Access control lists (ACLs)

ACLs are used in several operating systems, applications, and router configurations. They are lists of subjects that are authorized to access a specific object, and they define what level of authorization is granted. Authorization can be specific to an individual, group, or role. ACLs map values from the access control matrix to the object.

Whereas a capability corresponds to a row in the access control matrix, the ACL corresponds to a column of the matrix.

NOTE: Ensure you are familiar with the terms Capability and ACLs for the purpose of the exam.

Resource(s) used for this question:

Harris, Shon (2012-10-25). CISSP All-in-One Exam Guide, 6th Edition (Kindle Locations 5264-5267). McGraw-Hill. Kindle Edition.

or

Harris, Shon (2012-10-25). CISSP All-in-One Exam Guide, 6th Edition, Page 229 and

Hernandez CISSP, Steven (2012-12-21). Official (ISC)2 Guide to the CISSP CBK, Third Edition ((ISC)2 Press) (Kindle Locations 1923-1925). Auerbach

Publications. Kindle Edition.

NEW QUESTION 10

- (Topic 1)

What does the (star) property mean in the Bell-LaPadula model?

- A. No write up
- B. No read up
- C. No write down
- D. No read down

Answer: C

Explanation:

The (star) property of the Bell-LaPadula access control model states that writing of information by a subject at a higher level of sensitivity to an object at a lower level of sensitivity is not permitted (no write down).

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, John Wiley & Sons, 2001, Chapter 5: Security Architectures and Models (page 202).

Also check out: HARRIS, Shon, All-In-One CISSP Certification Exam Guide, McGraw- Hill/Osborne, 2002, Chapter 5: Security Models and Architecture (page 242, 243).

NEW QUESTION 12

- (Topic 1)

Which of the following questions is less likely to help in assessing identification and authentication controls?

- A. Is a current list maintained and approved of authorized users and their access?
- B. Are passwords changed at least every ninety days or earlier if needed?
- C. Are inactive user identifications disabled after a specified period of time?
- D. Is there a process for reporting incidents?

Answer: D

Explanation:

Identification and authentication is a technical measure that prevents unauthorized people (or unauthorized processes) from entering an IT system. Access control usually requires that the system be able to identify and differentiate among users. Reporting incidents is more related to incident response capability (operational control) than to identification and authentication (technical control).

Source: SWANSON, Marianne, NIST Special Publication 800-26, Security Self- Assessment Guide for Information Technology Systems, November 2001 (Pages A-30 to A-32).

NEW QUESTION 13

- (Topic 1)

Controls to keep password sniffing attacks from compromising computer systems include which of the following?

- A. static and recurring passwords.
- B. encryption and recurring passwords.
- C. one-time passwords and encryption.
- D. static and one-time passwords.

Answer: C

Explanation:

To minimize the chance of passwords being captured one-time passwords would prevent a password sniffing attack because once used it is no longer valid.

Encryption will also minimize these types of attacks.

The following answers are correct:

static and recurring passwords. This is incorrect because if there is no encryption then someone password sniffing would be able to capture the password much easier if it never changed.

encryption and recurring passwords. This is incorrect because while encryption helps, recurring passwords do nothing to minimize the risk of passwords being captured.

static and one-time passwords. This is incorrect because while one-time passwords will prevent these types of attacks, static passwords do nothing to minimize the risk of passwords being captured.

NEW QUESTION 14

- (Topic 1)

Which of the following is NOT a type of motion detector?

- A. Photoelectric sensor
- B. Passive infrared sensors
- C. Microwave Sensor.
- D. Ultrasonic Sensor.

Answer: A

Explanation:

A photoelectric sensor does not "directly" sense motion there is a narrow beam that won't set off the sensor unless the beam is broken. Photoelectric sensors, along with dry contact switches, are a type of perimeter intrusion detector.

All of the other answers are valid types of motion detectors types.

The content below on the different types of sensors is from Wikipedia: Indoor Sensors

These types of sensors are designed for indoor use. Outdoor use would not be advised due to false alarm vulnerability and weather durability. Passive infrared detectors



C:\Users\MCS\Desktop\1.jpg Passive Infrared Sensor

The passive infrared detector (PIR) is one of the most common detectors found in household and small business environments because it offers affordable and reliable functionality. The term passive means the detector is able to function without the need to generate and radiate its own energy (unlike ultrasonic and microwave volumetric intrusion detectors that are ??active?? in operation). PIRs are able to distinguish if an infrared emitting object is present by first learning the ambient temperature of the monitored space and then detecting a change in the temperature caused by the presence of an object. Using the principle of differentiation, which is a check of presence or nonpresence, PIRs verify if an intruder or object is actually there. Creating individual zones of detection where each zone comprises one or more layers can achieve differentiation. Between the zones there are areas of no sensitivity (dead zones) that are used by the sensor for comparison.

Ultrasonic detectors

Using frequencies between 15 kHz and 75 kHz, these active detectors transmit ultrasonic sound waves that are inaudible to humans. The Doppler shift principle is the underlying method of operation, in which a change in frequency is detected due to object motion. This is caused when a moving object changes the frequency of sound waves around it. Two conditions must occur to successfully detect a Doppler shift event:

There must be motion of an object either towards or away from the receiver.

The motion of the object must cause a change in the ultrasonic frequency to the receiver relative to the transmitting frequency.

The ultrasonic detector operates by the transmitter emitting an ultrasonic signal into the area to be protected. The sound waves are reflected by solid objects (such as the surrounding floor, walls and ceiling) and then detected by the receiver. Because ultrasonic waves are transmitted through air, then hard-surfaced objects tend to reflect most of the ultrasonic energy, while soft surfaces tend to absorb most energy.

When the surfaces are stationary, the frequency of the waves detected by the receiver will be equal to the transmitted frequency. However, a change in frequency will occur as a result of the Doppler principle, when a person or object is moving towards or away from the detector. Such an event initiates an alarm signal. This technology is considered obsolete by many alarm professionals, and is not actively installed.

Microwave detectors

This device emits microwaves from a transmitter and detects any reflected microwaves or reduction in beam intensity using a receiver. The transmitter and receiver are usually combined inside a single housing (monostatic) for indoor applications, and separate housings (bistatic) for outdoor applications. To reduce false alarms this type of detector is usually combined with a passive infrared detector or "Dualtec" alarm.

Microwave detectors respond to a Doppler shift in the frequency of the reflected energy, by a phase shift, or by a sudden reduction of the level of received energy. Any of these effects may indicate motion of an intruder.

Photo-electric beams

Photoelectric beam systems detect the presence of an intruder by transmitting visible or infrared light beams across an area, where these beams may be obstructed. To improve the detection surface area, the beams are often employed in stacks of two or more. However, if an intruder is aware of the technology's presence, it can be avoided. The technology can be an effective long-range detection system, if installed in stacks of three or more where the transmitters and receivers are staggered to create a fence-like barrier. Systems are available for both internal and external applications. To prevent a clandestine attack using a secondary light source being used to hold the detector in a 'sealed' condition whilst an intruder passes through, most systems use and detect a modulated light source.

Glass break detectors

The glass break detector may be used for internal perimeter building protection. When glass breaks it generates sound in a wide band of frequencies. These can range from infrasonic, which is below 20 hertz (Hz) and can not be heard by the human ear, through the audio band from 20 Hz to 20 kHz which humans can hear, right up to ultrasonic, which is above 20 kHz and again cannot be heard. Glass break acoustic detectors are mounted in close proximity to the glass panes and listen for sound frequencies associated with glass breaking. Seismic glass break detectors are different in that they are installed on the glass pane. When glass breaks it produces specific shock frequencies which travel through the glass and often through the window frame and the surrounding walls and ceiling. Typically, the most intense frequencies generated are between 3 and 5 kHz, depending on the type of glass and the presence of a plastic interlayer. Seismic glass break detectors ??feel?? these shock frequencies and in turn generate an alarm condition.

The more primitive detection method involves gluing a thin strip of conducting foil on the inside of the glass and putting low-power electrical current through it.

Breaking the glass is practically guaranteed to tear the foil and break the circuit.

Smoke, heat, and carbon monoxide detectors



C:\Users\MCS\Desktop\1.jpg Heat Detection System

Most systems may also be equipped with smoke, heat, and/or carbon monoxide detectors. These are also known as 24 hour zones (which are on at all times). Smoke detectors and heat detectors protect from the risk of fire and carbon monoxide detectors protect from the risk of carbon monoxide. Although an intruder alarm panel may also have these detectors connected, it may not meet all the local fire code requirements of a fire alarm system.

Other types of volumetric sensors could be:

Active Infrared

Passive Infrared/Microwave combined Radar

Accoustical Sensor/Audio Vibration Sensor (seismic) Air Turbulence

NEW QUESTION 19

- (Topic 1)

Logical or technical controls involve the restriction of access to systems and the protection of information. Which of the following statements pertaining to these types of controls is correct?

- A. Examples of these types of controls include policies and procedures, security awareness training, background checks, work habit checks but do not include a review of vacation history, and also do not include increased supervision.
- B. Examples of these types of controls do not include encryption, smart cards, access lists, and transmission protocols.
- C. Examples of these types of controls are encryption, smart cards, access lists, and transmission protocols.
- D. Examples of these types of controls include policies and procedures, security awareness training, background checks, work habit checks, a review of vacation history, and increased supervision.

Answer: C

Explanation:

Logical or technical controls involve the restriction of access to systems and the protection of information. Examples of these types of controls are encryption, smart cards, access lists, and transmission protocols.

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 33.

NEW QUESTION 23

- (Topic 1)

Which of the following is most relevant to determining the maximum effective cost of access control?

- A. the value of information that is protected
- B. management's perceptions regarding data importance
- C. budget planning related to base versus incremental spending.
- D. the cost to replace lost data

Answer: A

Explanation:

The cost of access control must be commensurate with the value of the information that is being protected.

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 49.

NEW QUESTION 28

- (Topic 1)

Which access control type has a central authority that determine to what objects the subjects have access to and it is based on role or on the organizational security policy?

- A. Mandatory Access Control
- B. Discretionary Access Control
- C. Non-Discretionary Access Control
- D. Rule-based Access control

Answer: C

Explanation:

Non Discretionary Access Control include Role Based Access Control (RBAC) and Rule Based Access Control (RBAC or RuBAC). RABC being a subset of NDAC, it was easy to eliminate RBAC as it was covered under NDAC already.

Some people think that RBAC is synonymous with NDAC but RuBAC would also fall into this category.

Discretionary Access control is for environment with very low level of security. There is no control on the dissemination of the information. A user who has access to a file can copy the file or further share it with other users.

Rule Based Access Control is when you have ONE set of rules applied uniformly to all users. A good example would be a firewall at the edge of your network. A single rule based is applied against any packets received from the internet.

Mandatory Access Control is a very rigid type of access control. The subject must dominate the object and the subject must have a Need To Know to access the information. Objects have labels that indicate the sensitivity (classification) and there is also categories to enforce the Need To Know (NTK).

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 33.

NEW QUESTION 33

- (Topic 1)

The control measures that are intended to reveal the violations of security policy using software and hardware are associated with:

- A. Preventive/physical
- B. Detective/technical
- C. Detective/physical
- D. Detective/administrative

Answer: B

Explanation:

The detective/technical control measures are intended to reveal the violations of security policy using technical means.

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 35.

NEW QUESTION 36

- (Topic 1)

The three classic ways of authenticating yourself to the computer security software are by something you know, by something you have, and by something:

- A. you need.
- B. non-trivial
- C. you are.
- D. you can get.

Answer: C

Explanation:

This is more commonly known as biometrics and is one of the most accurate ways to authenticate an individual. The rest of the answers are incorrect because they not one of the three recognized forms for Authentication.

NEW QUESTION 40

- (Topic 1)

RADIUS incorporates which of the following services?

- A. Authentication server and PIN codes.
- B. Authentication of clients and static passwords generation.
- C. Authentication of clients and dynamic passwords generation.
- D. Authentication server as well as support for Static and Dynamic passwords.

Answer: D

Explanation:

A Network Access Server (NAS) operates as a client of RADIUS. The client is responsible for passing user information to designated RADIUS servers, and then acting on the response which is returned.

RADIUS servers are responsible for receiving user connection requests, authenticating the user, and then returning all configuration information necessary for the client to deliver service to the user.

RADIUS authentication is based on provisions of simple username/password credentials.

These credentials are encrypted

by the client using a shared secret between the client and the RADIUS server. OIG 2007, Page 513

RADIUS incorporates an authentication server and can make uses of both dynamic and static passwords.

Since it uses the PAP and CHAP protocols, it also includes static passwords.

RADIUS is an Internet protocol. RADIUS carries authentication, authorization, and configuration information between a Network Access Server and a shared Authentication Server. RADIUS features and functions are described primarily in the IETF (International Engineering Task Force) document RFC2138.

The term " RADIUS" is an acronym which stands for Remote Authentication Dial In User Service.

The main advantage to using a RADIUS approach to authentication is that it can provide a stronger form of authentication. RADIUS is capable of using a strong, two-factor form of authentication, in which users need to possess both a user ID and a hardware or software token to gain access.

Token-based schemes use dynamic passwords. Every minute or so, the token generates a unique 4-, 6- or 8-digit access number that is synchronized with the security server. To gain entry into the system, the user must generate both this one-time number and provide his or her user ID and password.

Although protocols such as RADIUS cannot protect against theft of an authenticated session via some realtime attacks, such as wiretapping, using unique, unpredictable authentication requests can protect against a wide range of active attacks.

RADIUS: Key Features and Benefits Features Benefits

RADIUS supports dynamic passwords and challenge/response passwords. Improved system security due to the fact that passwords are not static.

It is much more difficult for a bogus host to spoof users into giving up their passwords or password-generation algorithms.

RADIUS allows the user to have a single user ID and password for all computers in a network.

Improved usability due to the fact that the user has to remember only one login combination.

RADIUS is able to:

Prevent RADIUS users from logging in via login (or ftp). Require them to log in via login (or ftp)

Require them to login to a specific network access server (NAS); Control access by time of day.

Provides very granular control over the types of logins allowed, on a per-user basis. The time-out interval for failing over from an unresponsive primary RADIUS server to a

backup RADIUS server is site-configurable.

RADIUS gives System Administrator more flexibility in managing which users can login from which hosts or devices.

Stratus Technology Product Brief <http://www.stratus.com/products/vos/openvos/radius.htm>

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Pages 43, 44.

Also check: MILLER, Lawrence & GREGORY, Peter, CISSP for Dummies, 2002, Wiley Publishing, Inc., pages 45-46.

NEW QUESTION 45

- (Topic 1)

Which TCSEC class specifies discretionary protection?

- A. B2
- B. B1
- C. C2
- D. C1

Answer: D

Explanation:

C1 involves discretionary protection, C2 involves controlled access protection, B1 involves labeled security protection and B2 involves structured protection.

Source: TIPTON, Hal, (ISC)2, Introduction to the CISSP Exam presentation.

NEW QUESTION 49

- (Topic 1)

Which of the following statements pertaining to biometrics is false?

- A. Increased system sensitivity can cause a higher false rejection rate
- B. The crossover error rate is the point at which false rejection rate equals the false acceptance rate.
- C. False acceptance rate is also known as Type II error.

D. Biometrics are based on the Type 2 authentication mechanism.

Answer: D

Explanation:

Authentication is based on three factor types: type 1 is something you know, type 2 is something you have and type 3 is something you are. Biometrics are based on the Type 3 authentication mechanism.

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, John Wiley & Sons, 2001, Chapter 2: Access control systems (page 37).

NEW QUESTION 50

- (Topic 1)

Which of the following control pairing places emphasis on "soft" mechanisms that support the access control objectives?

- A. Preventive/Technical Pairing
- B. Preventive/Administrative Pairing
- C. Preventive/Physical Pairing
- D. Detective/Administrative Pairing

Answer: B

Explanation:

Soft Control is another way of referring to Administrative control.

Technical and Physical controls are NOT soft control, so any choice listing them was not the best answer.

Preventative/Technical is incorrect because although access control can be technical control, it is commonly not referred to as a "soft" control

Preventative/Administrative is correct because access controls are preventative in nature. it is always best to prevent a negative event, however there are times where controls might fail and you cannot prevent everything. Administrative controls are roles, responsibilities, policies, etc which are usually paper based. In the administrative category you would find audit, monitoring, and security awareness as well.

Preventative/Physical pairing is incorrect because Access controls with an emphasis on "soft" mechanisms conflict with the basic concept of physical controls, physical controls are usually tangible objects such as fences, gates, door locks, sensors, etc...

Detective/Administrative Pairing is incorrect because access control is a preventative control used to control access, not to detect violations to access.

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 34.

NEW QUESTION 55

- (Topic 1)

When submitting a passphrase for authentication, the passphrase is converted into ...

- A. a virtual password by the system
- B. a new passphrase by the system
- C. a new passphrase by the encryption technology
- D. a real password by the system which can be used forever

Answer: A

Explanation:

Passwords can be compromised and must be protected. In the ideal case, a password should only be used once. The changing of passwords can also fall between these two extremes.

Passwords can be required to change monthly, quarterly, or at other intervals, depending on the criticality of the information needing protection and the password's frequency of use.

Obviously, the more times a password is used, the more chance there is of it being compromised.

It is recommended to use a passphrase instead of a password. A passphrase is more resistant to attacks. The passphrase is converted into a virtual password by the system. Often time the passphrase will exceed the maximum length supported by the system and it must be truncated into a Virtual Password.

Reference(s) used for this question: <http://www.itl.nist.gov/fipspubs/fip112.htm>

and

KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 36 & 37.

NEW QUESTION 59

- (Topic 1)

The Orange Book is founded upon which security policy model?

- A. The Biba Model
- B. The Bell LaPadula Model
- C. Clark-Wilson Model
- D. TEMPEST

Answer: B

Explanation:

From the glossary of Computer Security Basics:

The Bell-LaPadula model is the security policy model on which the Orange Book requirements are based. From the Orange Book definition, "A formal state transition model of computer security policy that describes a set of access control rules. In this formal model, the entities in a computer system are divided into abstract sets of subjects and objects. The notion of secure state is defined and it is proven that each state transition preserves security by moving from secure state to secure state; thus, inductively proving the system is secure. A system state is defined to be 'secure' if the only permitted access modes of subjects to objects are in accordance with a specific security policy. In order to determine whether or not a specific access mode is allowed, the clearance of a subject is compared to the classification of the object and a determination is made as to whether the subject is authorized for the specific access mode."

The Biba Model is an integrity model of computer security policy that describes a set of rules. In this model, a subject may not depend on any object or other subject that is less trusted than itself.

The Clark Wilson Model is an integrity model for computer security policy designed for a commercial environment. It addresses such concepts as nondiscretionary access control, privilege separation, and least privilege. TEMPEST is a government program that prevents the compromising electrical and electromagnetic signals that emanate from computers and related equipment from being intercepted and deciphered.

Source: RUSSEL, Deborah & GANGEMI, G.T. Sr., Computer Security Basics, O'Reilly, 1991.

Also: U.S. Department of Defense, Trusted Computer System Evaluation Criteria (Orange Book), DOD 5200.28-STD. December 1985 (also available here).

NEW QUESTION 63

- (Topic 1)

Which of the following Operation Security controls is intended to prevent unauthorized intruders from internally or externally accessing the system, and to lower the amount and impact of unintentional errors that are entering the system?

- A. Detective Controls
- B. Preventative Controls
- C. Corrective Controls
- D. Directive Controls

Answer: B

Explanation:

In the Operations Security domain, Preventative Controls are designed to prevent unauthorized intruders from internally or externally accessing the system, and to lower the amount and impact of unintentional errors that are entering the system. Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 217.

NEW QUESTION 66

- (Topic 1)

A central authority determines what subjects can have access to certain objects based on the organizational security policy is called:

- A. Mandatory Access Control
- B. Discretionary Access Control
- C. Non-Discretionary Access Control
- D. Rule-based Access control

Answer: C

Explanation:

A central authority determines what subjects can have access to certain objects based on the organizational security policy.

The key focal point of this question is the 'central authority' that determines access rights. Cecilia one of the quiz user has sent me feedback informing me that NIST defines MAC as:

"MAC Policy means that Access Control Policy Decisions are made by a CENTRAL AUTHORITY. Which seems to indicate there could be two good answers to this question.

However if you read the NISTR document mentioned in the references below, it is also mentioned that: MAC is the most mentioned NDAC policy. So MAC is a form of NDAC policy.

Within the same document it is also mentioned: "In general, all access control policies other than DAC are grouped in the category of non- discretionary access control (NDAC). As the name implies, policies in this category have rules that are not established at the discretion of the user. Non-discretionary policies establish controls that cannot be changed by users, but only through administrative action."

Under NDAC you have two choices:

Rule Based Access control and Role Base Access Control

MAC is implemented using RULES which makes it fall under RBAC which is a form of NDAC. It is a subset of NDAC.

This question is representative of what you can expect on the real exam where you have more than once choice that seems to be right. However, you have to look closely if one of the choices would be higher level or if one of the choice falls under one of the other choice. In this case NDAC is a better choice because MAC is falling under NDAC through the use of Rule Based Access Control.

The following are incorrect answers: MANDATORY ACCESS CONTROL

In Mandatory Access Control the labels of the object and the clearance of the subject

determines access rights, not a central authority. Although a central authority (Better known as the Data Owner) assigns the label to the object, the system does the determination of access rights automatically by comparing the Object label with the Subject clearance. The subject clearance MUST dominate (be equal or higher) than the object being accessed.

The need for a MAC mechanism arises when the security policy of a system dictates that:

1. Protection decisions must not be decided by the object owner.
2. The system must enforce the protection decisions (i.e., the system enforces the security policy over the wishes or intentions of the object owner).

Usually a labeling mechanism and a set of interfaces are used to determine access based on the MAC policy; for example, a user who is running a process at the Secret classification should not be allowed to read a file with a label of Top Secret. This is known as the ??simple security rule,?? or ??no read up.??

Conversely, a user who is running a process with a label of Secret should not be allowed to write to a file with a label of Confidential. This rule is called the ??*-property?? (pronounced

??star property??) or ??no write down.?? The *-property is required to maintain system security in an automated environment.

DISCRETIONARY ACCESS CONTROL

In Discretionary Access Control the rights are determined by many different entities, each of the persons who have created files and they are the owner of that file, not one central authority.

DAC leaves a certain amount of access control to the discretion of the object's owner or anyone else who is authorized to control the object's access. For example, it is generally used to limit a user's access to a file; it is the owner of the file who controls other users' accesses to the file. Only those users specified by the owner may have some combination of read, write, execute, and other permissions to the file.

DAC policy tends to be very flexible and is widely used in the commercial and government sectors. However, DAC is known to be inherently weak for two reasons: First, granting read access is transitive; for example, when Ann grants Bob read access to a file, nothing stops Bob from copying the contents of Ann??s file to an object that Bob controls. Bob may now grant any other user access to the copy of Ann??s file without Ann??s knowledge.

Second, DAC policy is vulnerable to Trojan horse attacks. Because programs inherit the identity of the invoking user, Bob may, for example, write a program for Ann that, on the surface, performs some useful function, while at the same time destroys the contents of Ann??s files. When investigating the problem, the audit files would indicate that Ann destroyed her own files. Thus, formally, the drawbacks of DAC are as follows:

Discretionary Access Control (DAC) Information can be copied from one object to another; therefore, there is no real assurance on the flow of information in a system.

No restrictions apply to the usage of information when the user has received it.

The privileges for accessing objects are decided by the owner of the object, rather than through a system-wide policy that reflects the organization??s security requirements.

ACLs and owner/group/other access control mechanisms are by far the most common mechanism for implementing DAC policies. Other mechanisms, even though not designed with DAC in mind, may have the capabilities to implement a DAC policy.

RULE BASED ACCESS CONTROL

In Rule-based Access Control a central authority could in fact determine what subjects can have access when assigning the rules for access. However, the rules actually determine the access and so this is not the most correct answer. RuBAC (as opposed to RBAC, role-based access control) allow users to access systems and information based on pre determined and configured rules. It is important to note that there is no commonly understood definition or formally defined standard for rule-based access control as there is for DAC, MAC, and RBAC. ??Rule-based access?? is a generic term applied to systems that allow some form of organization-defined rules, and therefore rule-based access control encompasses a broad range of systems. RuBAC may in fact be combined with other models, particularly RBAC or DAC. A RuBAC system intercepts every access request and compares the rules with the rights of the user to make an access decision. Most of the rule-based access control relies on a security label system, which dynamically composes a set of rules defined by a security policy. Security labels are attached to all objects, including files, directories, and devices. Sometime roles to subjects (based on their attributes) are assigned as well. RuBAC meets the business needs as well as the technical needs of controlling service access. It allows business rules to be applied to access control??for example, customers who have overdue balances may be denied service access. As a mechanism for MAC, rules of RuBAC cannot be changed by users. The rules can be established by any attributes of a system related to the users such as domain, host, protocol, network, or IP addresses. For example, suppose that a user wants to access an object in another network on the other side of a router. The router employs RuBAC with the rule composed by the network addresses, domain, and protocol to decide whether or not the user can be granted access. If employees change their roles within the organization, their existing authentication credentials remain in effect and do not need to be re configured. Using rules in conjunction with roles adds greater flexibility because rules can be applied to people as well as to devices. Rule-based access control can be combined with role-based access control, such that the role of a user is one of the attributes in rule setting. Some provisions of access control systems have rule- based policy engines in addition to a role-based policy engine and certain implemented dynamic policies [Des03]. For example, suppose that two of the primary types of software users are product engineers and quality engineers. Both groups usually have access to the same data, but they have different roles to perform in relation to the data and the application's function. In addition, individuals within each group have different job responsibilities that may be identified using several types of attributes such as developing programs and testing areas. Thus, the access decisions can be made in real time by a scripted policy that regulates the access between the groups of product engineers and quality engineers, and each individual within these groups. Rules can either replace or complement role-based access control. However, the creation of rules and security policies is also a complex process, so each organization will need to strike the appropriate balance. References used for this question: <http://csrc.nist.gov/publications/nistir/7316/NISTIR-7316.pdf> and AIO v3 p162-167 and OIG (2007) p.186-191 also KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 33.

NEW QUESTION 69

- (Topic 1)

Which of the following questions is less likely to help in assessing physical access controls?

- A. Does management regularly review the list of persons with physical access to sensitive facilities?
- B. Is the operating system configured to prevent circumvention of the security software and application controls?
- C. Are keys or other access devices needed to enter the computer room and media library?
- D. Are visitors to sensitive areas signed in and escorted?

Answer: B

Explanation:

Physical security and environmental security are part of operational controls, and are measures taken to protect systems, buildings, and related supporting infrastructures against threats associated with their physical environment. All the questions above are useful in assessing physical access controls except for the one regarding operating system configuration, which is a logical access control.

Source: SWANSON, Marianne, NIST Special Publication 800-26, Security Self- Assessment Guide for Information Technology Systems, November 2001 (Pages A-21 to A-24).

NEW QUESTION 71

- (Topic 1)

Which of the following is an example of discretionary access control?

- A. Identity-based access control
- B. Task-based access control
- C. Role-based access control
- D. Rule-based access control

Answer: A

Explanation:

An identity-based access control is an example of discretionary access control that is based on an individual's identity. Identity-based access control (IBAC) is access control based on the identity of the user (typically relayed as a characteristic of the process acting on behalf of that user) where access authorizations to specific objects are assigned based on user identity.

Rule Based Access Control (RuBAC) and Role Based Access Control (RBAC) are examples of non-discretionary access controls.

Rule-based access control is a type of non-discretionary access control because this access is determined by rules and the subject does not decide what those rules will be, the rules are uniformly applied to ALL of the users or subjects.

In general, all access control policies other than DAC are grouped in the category of non- discretionary access control (NDAC). As the name implies, policies in this category have rules that are not established at the discretion of the user. Non-discretionary policies establish controls that cannot be changed by users, but only through administrative action.

Both Role Based Access Control (RBAC) and Rule Based Access Control (RuBAC) fall within Non Discretionary Access Control (NDAC). If it is not DAC or MAC then it is most likely NDAC.

BELOW YOU HAVE A DESCRIPTION OF THE DIFFERENT CATEGORIES:

MAC = Mandatory Access Control

Under a mandatory access control environment, the system or security administrator will define what permissions subjects have on objects. The administrator does not dictate user??s access but simply configure the proper level of access as dictated by the Data Owner.

The MAC system will look at the Security Clearance of the subject and compare it with the object sensitivity level or classification level. This is what is called the dominance relationship.

The subject must DOMINATE the object sensitivity level. Which means that the subject must have a security clearance equal or higher than the object he is attempting to access.

MAC also introduce the concept of labels. Every objects will have a label attached to them indicating the classification of the object as well as categories that are used to impose the need to know (NTK) principle. Even thou a user has a security clearance of Secret it does not mean he would be able to access any Secret documents within the system. He would be allowed to access only Secret document for which he has a Need To Know, formal approval, and object where the user belong to one of the categories attached to the object.

If there is no clearance and no labels then IT IS NOT Mandatory Access Control.

Many of the other models can mimic MAC but none of them have labels and a dominance relationship so they are NOT in the MAC category.

DAC = Discretionary Access Control

DAC is also known as: Identity Based access control system.

The owner of an object is define as the person who created the object. As such the owner has the discretion to grant access to other users on the network. Access will be granted based solely on the identity of those users.

Such system is good for low level of security. One of the major problem is the fact that a user who has access to someone's else file can further share the file with other users without the knowledge or permission of the owner of the file. Very quickly this could become the wild wild west as there is no control on the dissimulation of the information.

RBAC = Role Based Access Control

RBAC is a form of Non-Discretionary access control.

Role Based access control usually maps directly with the different types of jobs performed by employees within a company.

For example there might be 5 security administrator within your company. Instead of creating each of their profile one by one, you would simply create a role and assign the administrators to the role. Once an administrator has been assigned to a role, he will IMPLICITLY inherit the permissions of that role.

RBAC is great tool for environment where there is a a large rotation of employees on a daily basis such as a very large help desk for example.

RBAC or RuBAC = Rule Based Access Control RuBAC is a form of Non-Discretionary access control.

A good example of a Rule Based access control device would be a Firewall. A single set of rules is imposed to all users attempting to connect through the firewall.

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the

Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 33. and

NISTIR-7316 at <http://csrc.nist.gov/publications/nistir/7316/NISTIR-7316.pdf> and

http://itlaw.wikia.com/wiki/Identity-based_access_control

NEW QUESTION 76

- (Topic 1)

What is called the percentage at which the False Rejection Rate equals the False Acceptance Rate?

- A. False Rejection Rate (FRR) or Type I Error
- B. False Acceptance Rate (FAR) or Type II Error
- C. Crossover Error Rate (CER)
- D. Failure to enroll rate (FTE or FER)

Answer: C

Explanation:

The percentage at which the False Rejection Rate equals the False Acceptance Rate is called the Crossover Error Rate (CER). Another name for the CER is the Equal Error Rate (EER), any of the two terms could be used.

Equal error rate or crossover error rate (EER or CER)

It is the rate at which both accept and reject errors are equal. The EER is a quick way to compare the accuracy of devices with different ROC curves. In general, the device with the lowest EER is most accurate.

The other choices were all wrong answers:

The following are used as performance metrics for biometric systems:

false accept rate or false match rate (FAR or FMR): the probability that the system incorrectly matches the input pattern to a non-matching template in the database. It measures the percent of invalid inputs which are incorrectly accepted. This is when an impostor would be accepted by the system.

False reject rate or false non-match rate (FRR or FNMR): the probability that the system fails to detect a match between the input pattern and a matching template in the database. It measures the percent of valid inputs which are incorrectly rejected. This is when a valid company employee would be rejected by the system.

Failure to enroll rate (FTE or FER): the rate at which attempts to create a template from an input is unsuccessful. This is most commonly caused by low quality inputs.

Reference(s) used for this question:

KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 38.

and <https://en.wikipedia.org/wiki/Biometrics>

NEW QUESTION 78

- (Topic 1)

This is a common security issue that is extremely hard to control in large environments. It occurs when a user has more computer rights, permissions, and access than what is required for the tasks the user needs to fulfill. What best describes this scenario?

- A. Excessive Rights
- B. Excessive Access
- C. Excessive Permissions
- D. Excessive Privileges

Answer: D

Explanation:

Even thou all 4 terms are very close to each other, the best choice is Excessive Privileges which would include the other three choices presented.

Reference(s) used for this question:

HARRIS, Shon, All-In-One CISSP Certification Exam Guide, McGraw-Hill/Osborne, 2001, Page 645.

and

NEW QUESTION 81

- (Topic 1)

Which of the following statements pertaining to Kerberos is TRUE?

- A. Kerberos does not address availability
- B. Kerberos does not address integrity
- C. Kerberos does not make use of Symmetric Keys
- D. Kerberos cannot address confidentiality of information

Answer: A

Explanation:

The question was asking for a TRUE statement and the only correct statement is "Kerberos does not address availability".

Kerberos addresses the confidentiality and integrity of information. It does not directly address availability.

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, John Wiley & Sons, 2001, Chapter 2:

Access control

systems (page 42).

NEW QUESTION 85

- (Topic 1)

What is one disadvantage of content-dependent protection of information?

A. It increases processing overhead.

B. It requires additional password entry.

C. It exposes the system to data locking.

D. It limits the user's individual address space.

Answer: A

Explanation:

Source: TIPTON, Hal, (ISC)2, Introduction to the CISSP Exam presentation.

NEW QUESTION 87

- (Topic 1)

When a biometric system is used, which error type deals with the possibility of GRANTING access to impostors who should be REJECTED?

A. Type I error

B. Type II error

C. Type III error

D. Crossover error

Answer: B

Explanation:

When the biometric system accepts impostors who should have been rejected, it is called a Type II error or False Acceptance Rate or False Accept Rate.

Biometrics verifies an individual's identity by analyzing a unique personal attribute or behavior, which is one of the most effective and accurate methods of verifying identification.

Biometrics is a very sophisticated technology; thus, it is much more expensive and complex than the other types of identity verification processes. A biometric system can make authentication decisions based on an individual's behavior, as in signature dynamics, but these can change over time and possibly be forged. Biometric systems that base authentication decisions on physical attributes (iris, retina, fingerprint) provide more accuracy, because physical attributes typically don't change much, absent some disfiguring injury, and are harder to impersonate.

When a biometric system rejects an authorized individual, it is called a Type I error (False Rejection Rate (FRR) or False Reject Rate (FRR)).

When the system accepts impostors who should be rejected, it is called a Type II error (False Acceptance Rate (FAR) or False Accept Rate (FAR)). Type II errors are the most dangerous and thus the most important to avoid.

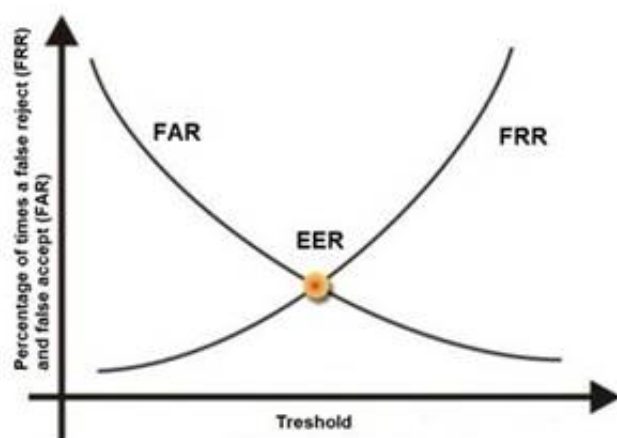
The goal is to obtain low numbers for each type of error, but When comparing different biometric systems, many different variables are used, but one of the most important metrics is the crossover error rate (CER).

The accuracy of any biometric method is measured in terms of Failed Acceptance Rate (FAR) and Failed Rejection Rate (FRR). Both are expressed as percentages. The FAR is the rate at which attempts by unauthorized users are incorrectly accepted as valid. The FRR is just the opposite. It measures the rate at which authorized users are denied access.

The relationship between FRR (Type I) and FAR (Type II) is depicted in the graphic below. As one rate increases, the other decreases. The Cross-over Error Rate (CER) is sometimes considered a good indicator of the overall accuracy of a biometric system. This

is the point at which the FRR and the FAR have the same value. Solutions with a lower CER are typically more accurate.

See graphic below from Biometria showing this relationship. The Cross-over Error Rate (CER) is also called the Equal Error Rate (EER), the two are synonymous.



C:\Users\MCS\Desktop\1.jpg Cross Over Error Rate

The other answers are incorrect:

Type I error is also called as False Rejection Rate where a valid user is rejected by the system.

Type III error : there is no such error type in biometric system.

Crossover error rate stated in percentage, represents the point at which false rejection equals the false acceptance rate.

Reference(s) used for this question: <http://www.biometria.sk/en/principles-of-biometrics.html>

and

Shon Harris, CISSP All In One (AIO), 6th Edition, Chapter 3, Access Control, Page 188- 189

and

Tech Republic, Reduce Multi_Factor Authentication Cost

NEW QUESTION 90

- (Topic 1)

What is the main focus of the Bell-LaPadula security model?

- A. Accountability
- B. Integrity
- C. Confidentiality
- D. Availability

Answer: C

Explanation:

The Bell-LaPadula model is a formal model dealing with confidentiality.

The Bell-CLaPadula Model (abbreviated BLP) is a state machine model used for enforcing access control in government and military applications. It was developed by David Elliott Bell and Leonard J. LaPadula, subsequent to strong guidance from Roger R. Schell to formalize the U.S. Department of Defense (DoD) multilevel security (MLS) policy. The model is a formal state transition model of computer security policy that describes a set of access control rules which use security labels on objects and clearances for subjects. Security labels range from the most sensitive (e.g. "Top Secret"), down to the least sensitive (e.g., "Unclassified" or "Public").

The Bell-CLaPadula model focuses on data confidentiality and controlled access to classified information, in contrast to the Biba Integrity Model which describes rules for the protection of data integrity. In this formal model, the entities in an information system are divided into subjects and objects.

The notion of a "secure state" is defined, and it is proven that each state transition preserves security by moving from secure state to secure state, thereby inductively proving that the system satisfies the security objectives of the model. The Bell-CLaPadula model is built on the concept of a state machine with a set of allowable states in a computer network system. The transition from one state to another state is defined by transition functions.

A system state is defined to be "secure" if the only permitted access modes of subjects to objects are in accordance with a security policy. To determine whether a specific access mode is allowed, the clearance of a subject is compared to the classification of the object (more precisely, to the combination of classification and set of compartments, making up the security level) to determine if the subject is authorized for the specific access mode.

The clearance/classification scheme is expressed in terms of a lattice. The model defines two mandatory access control (MAC) rules and one discretionary access control (DAC) rule with three security properties:

The Simple Security Property - a subject at a given security level may not read an object at a higher security level (no read-up).

The -property (read "star"-property) - a subject at a given security level must not write to any object at a lower security level (no write-down). The -property is also known as the Confinement property.

The Discretionary Security Property - use of an access matrix to specify the discretionary access control.

The following are incorrect answers:

Accountability is incorrect. Accountability requires that actions be traceable to the user that performed them and is not addressed by the Bell-LaPadula model.

Integrity is incorrect. Integrity is addressed in the Biba model rather than Bell-Lapadula. Availability is incorrect. Availability is concerned with assuring that data/services are available to authorized users as specified in service level objectives and is not addressed by the Bell-Lapadula model.

References: CBK, pp. 325-326

AIO3, pp. 279 - 284

AIOv4 Security Architecture and Design (pages 333 - 336) AIOv5 Security Architecture and Design (pages 336 - 338)

Wikipedia at https://en.wikipedia.org/wiki/Bell-La_Padula_model

NEW QUESTION 94

- (Topic 1)

In the context of access control, locks, gates, guards are examples of which of the following?

- A. Administrative controls
- B. Technical controls
- C. Physical controls
- D. Logical controls

Answer: C

Explanation:

Administrative, technical and physical controls are categories of access control mechanisms.

Logical and Technical controls are synonymous. So both of them could be eliminated as possible choices.

Physical Controls: These are controls to protect the organization's people and physical environment, such as locks, gates, and guards. Physical controls may be called "operational controls" in some contexts.

Physical security covers a broad spectrum of controls to protect the physical assets (primarily the people) in an organization. Physical Controls are sometimes referred to as "operational" controls in some risk management frameworks. These controls range from doors, locks, and windows to environment controls, construction standards, and guards. Typically, physical security is based on the notion of establishing security zones or concentric areas within a facility that require increased security as you get closer to the valuable assets inside the facility. Security zones are the physical representation of the defense-in-depth principle discussed earlier in this chapter. Typically, security zones are associated with rooms, offices, floors, or smaller elements, such as a cabinet or storage locker. The design of the physical security controls within the facility must take into account the protection of the asset as well as the individuals working in that area.

Reference(s) used for this question:

Hernandez CISSP, Steven (2012-12-21). Official (ISC)2 Guide to the CISSP CBK, Third Edition ((ISC)2 Press) (Kindle Locations 1301-1303). Auerbach Publications. Kindle Edition.

and

Hernandez CISSP, Steven (2012-12-21). Official (ISC)2 Guide to the CISSP CBK, Third Edition ((ISC)2 Press) (Kindle Locations 1312-1318). Auerbach Publications. Kindle Edition.

NEW QUESTION 95

- (Topic 1)

What is called the percentage of valid subjects that are falsely rejected by a Biometric Authentication system?

- A. False Rejection Rate (FRR) or Type I Error
- B. False Acceptance Rate (FAR) or Type II Error
- C. Crossover Error Rate (CER)
- D. True Rejection Rate (TRR) or Type III Error

Answer: A

Explanation:

The percentage of valid subjects that are falsely rejected is called the False Rejection Rate (FRR) or Type I Error.

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 38.

NEW QUESTION 96

- (Topic 1)

Which of the following models does NOT include data integrity or conflict of interest?

- A. Biba
- B. Clark-Wilson
- C. Bell-LaPadula
- D. Brewer-Nash

Answer: C

Explanation:

Bell LaPadula model (Bell 1975): The granularity of objects and subjects is not predefined, but the model prescribes simple access rights. Based on simple access restrictions the Bell LaPadula model enforces a discretionary access control policy enhanced with mandatory rules. Applications with rigid confidentiality requirements and without strong integrity requirements may properly be modeled.

These simple rights combined with the mandatory rules of the policy considerably restrict the spectrum of applications which can be appropriately modeled.

Source: TIPTON, Hal, (ISC)2, Introduction to the CISSP Exam presentation.

Also check:

Proceedings of the IFIP TC11 12th International Conference on Information Security, Samos (Greece), May 1996, On Security Models.

NEW QUESTION 100

- (Topic 1)

The number of violations that will be accepted or forgiven before a violation record is produced is called which of the following?

- A. clipping level
- B. acceptance level
- C. forgiveness level
- D. logging level

Answer: A

Explanation:

The correct answer is "clipping level". This is the point at which a system decides to take some sort of action when an action repeats a preset number of times.

That action may be to log the activity, lock a user account, temporarily close a port, etc.

Example: The most classic example of a clipping level is failed login attempts. If you have a system configured to lock a user's account after three failed login attempts, that is the "clipping level".

The other answers are not correct because:

Acceptance level, forgiveness level, and logging level are nonsensical terms that do not exist (to my knowledge) within network security.

Reference:

Official ISC2 Guide - The term "clipping level" is not in the glossary or index of that book. I cannot find it in the text either. However, I'm quite certain that it would be considered part of the CBK, despite its exclusion from the Official Guide.

All in One Third Edition page: 136 - 137

NEW QUESTION 103

- (Topic 1)

Which of the following is most appropriate to notify an internal user that session monitoring is being conducted?

- A. Logon Banners
- B. Wall poster
- C. Employee Handbook
- D. Written agreement

Answer: D

Explanation:

This is a tricky question, the keyword in the question is Internal users.

There are two possible answers based on how the question is presented, this question could either apply to internal users or ANY anonymous/external users.

Internal users should always have a written agreement first, then logon banners serve as a constant reminder.

Banners at the log-on time should be used to notify external users of any monitoring that is being conducted. A good banner will give you a better legal stand and also makes it obvious the user was warned about who should access the system, who is authorized and unauthorized, and if it is an unauthorized user then he is fully aware of trespassing. Anonymous/External users, such as those logging into a web site, ftp server or even a mail server; their only notification system is the use of a logon banner.

References used for this question:

KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 50.

and
Shon Harris, CISSP All-in-one, 5th edition, pg 873

NEW QUESTION 105

- (Topic 1)

Which of the following is most appropriate to notify an external user that session monitoring is being conducted?

- A. Logon Banners
- B. Wall poster
- C. Employee Handbook
- D. Written agreement

Answer: A

Explanation:

Banners at the log-on time should be used to notify external users of any monitoring that is being conducted. A good banner will give you a better legal stand and also makes it obvious the user was warned about who should access the system and if it is an unauthorized user then he is fully aware of trespassing.

This is a tricky question, the keyword in the question is External user.

There are two possible answers based on how the question is presented, this question could either apply to internal users or ANY anonymous user.

Internal users should always have a written agreement first, then logon banners serve as a constant reminder.

Anonymous users, such as those logging into a web site, ftp server or even a mail server; their only notification system is the use of a logon banner.

References used for this question:

KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 50.
and

Shon Harris, CISSP All-in-one, 5th edition, pg 873

NEW QUESTION 107

- (Topic 1)

Which type of attack involves impersonating a user or a system?

- A. Smurfing attack
- B. Spoofing attack
- C. Spamming attack
- D. Sniffing attack

Answer: B

Explanation:

A spoofing attack is when an attempt is made to gain access to a computer system by posing as an authorized user or system. Spamming refers to sending out or posting junk advertising and unsolicited mail. A smurf attack is a type of denial-of-service attack using PING and a spoofed address. Sniffing refers to observing packets passing on a network.

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the

Ten Domains of Computer Security, John Wiley & Sons, 2001, Chapter 3: Telecommunications and Network Security (page 77).

NEW QUESTION 108

- (Topic 1)

What kind of certificate is used to validate a user identity?

- A. Public key certificate
- B. Attribute certificate
- C. Root certificate
- D. Code signing certificate

Answer: A

Explanation:

In cryptography, a public key certificate (or identity certificate) is an electronic document which incorporates a digital signature to bind together a public key with an identity ?? information such as the name of a person or an organization, their address, and so forth. The certificate can be used to verify that a public key belongs to an individual.

In a typical public key infrastructure (PKI) scheme, the signature will be of a certificate authority (CA). In a web of trust scheme, the signature is of either the user (a self-signed certificate) or other users ("endorsements"). In either case, the signatures on a certificate are attestations by the certificate signer that the identity information and the public key belong together.

In computer security, an authorization certificate (also known as an attribute certificate) is a digital document that describes a written permission from the issuer to use a service or a resource that the issuer controls or has access to use. The permission can be delegated.

Some people constantly confuse PKCs and ACs. An analogy may make the distinction clear. A PKC can be considered to be like a passport: it identifies the holder, tends to last for a long time, and should not be trivial to obtain. An AC is more like an entry visa: it is typically issued by a different authority and does not last for as long a time. As acquiring an entry visa typically requires presenting a passport, getting a visa can be a simpler process.

A real life example of this can be found in the mobile software deployments by large service providers and are typically applied to platforms such as Microsoft Smartphone (and related), Symbian OS, J2ME, and others.

In each of these systems a mobile communications service provider may customize the mobile terminal client distribution (ie. the mobile phone operating system or application environment) to include one or more root certificates each associated with a set of capabilities or permissions such as "update firmware", "access address book", "use radio interface", and the most basic one, "install and execute". When a developer wishes to enable distribution and execution in one of these controlled environments they must acquire a certificate from an appropriate CA, typically a large commercial CA, and in the process they usually have their identity verified using out-of-band mechanisms such as a combination of phone call, validation of their legal entity through government and commercial databases, etc., similar to the high assurance SSL certificate vetting process, though often there are additional specific requirements imposed on would-be developers/publishers. Once the identity has been validated they are issued an identity certificate they can use to sign their software; generally the software signed by the developer or publisher's identity certificate is not distributed but rather it is submitted to processor to possibly test or profile the content before generating an authorization certificate which is unique to the particular software release. That certificate is then used with an ephemeral asymmetric key-pair to sign the software as the last step of preparation for distribution. There are many advantages to separating the identity and authorization certificates especially relating to risk mitigation of new content being accepted into the system and key management as well as recovery from errant software which can be used as attack vectors.

References:

HARRIS, Shon, All-In-One CISSP Certification Exam Guide, 2001, McGraw-Hill/Osborne, page 540.

http://en.wikipedia.org/wiki/Attribute_certificate http://en.wikipedia.org/wiki/Public_key_certificate

NEW QUESTION 111

- (Topic 1)

Which of the following would be an example of the best password?

- A. golf001
- B. Elizabeth
- C. T1me4g0lF
- D. password

Answer: C

Explanation:

The best passwords are those that are both easy to remember and hard to crack using a dictionary attack. The best way to create passwords that fulfil both criteria is to use two small unrelated words or phonemes, ideally with upper and lower case characters, a special character, and/or a number. Shouldn't be used: common names, DOB, spouse, phone numbers, words found in dictionaries or system defaults.

Source: ROTHKE, Ben, CISSP CBK Review presentation on domain 1.

NEW QUESTION 116

- (Topic 1)

In Mandatory Access Control, sensitivity labels attached to object contain what information?

- A. The item's classification
- B. The item's classification and category set
- C. The item's category
- D. The items's need to know

Answer: B

Explanation:

A Sensitivity label must contain at least one classification and one category set.

Category set and Compartment set are synonyms, they mean the same thing. The sensitivity label must contain at least one Classification and at least one Category. It is common in some environments for a single item to belong to multiple categories. The list of all the categories to which an item belongs is called a compartment set or category set.

The following answers are incorrect:

the item's classification. Is incorrect because you need a category set as well.

the item's category. Is incorrect because category set and classification would be both be required.

The item's need to know. Is incorrect because there is no such thing. The need to know is indicated by the categories the object belongs to. This is NOT the best answer.

Reference(s) used for this question:

OIG CBK, Access Control (pages 186 - 188)

AIO, 3rd Edition, Access Control (pages 162 - 163) AIO, 4th Edition, Access Control, pp 212-214.

Wikipedia - http://en.wikipedia.org/wiki/Mandatory_Access_Control

NEW QUESTION 120

- (Topic 1)

What is the Biba security model concerned with?

- A. Confidentiality
- B. Reliability
- C. Availability
- D. Integrity

Answer: D

Explanation:

The Biba security model addresses the integrity of data being threatened when subjects at lower security levels are able to write to objects at higher security levels and when subjects can read data at lower levels.

Source: HARRIS, Shon, All-In-One CISSP Certification Exam Guide, McGraw- Hill/Osborne, 2002, Chapter 5: Security Models and Architecture (Page 244).

NEW QUESTION 125

- (Topic 1)

There are parallels between the trust models in Kerberos and Public Key Infrastructure (PKI). When we compare them side by side, Kerberos tickets correspond most closely to which of the following?

- A. public keys
- B. private keys
- C. public-key certificates
- D. private-key certificates

Answer: C

Explanation:

A Kerberos ticket is issued by a trusted third party. It is an encrypted data structure that includes the service encryption key. In that sense it is similar to a public-key certificate. However, the ticket is not the key.

The following answers are incorrect:

public keys. Kerberos tickets are not shared out publicly, so they are not like a PKI public key.

private keys. Although a Kerberos ticket is not shared publicly, it is not a private key. Private keys are associated with Asymmetric crypto system which is not used by Kerberos. Kerberos uses only the Symmetric crypto system.

private key certificates. This is a detractor. There is no such thing as a private key certificate.

NEW QUESTION 130

- (Topic 1)

Which of the following statements pertaining to the Bell-LaPadula is TRUE if you are NOT making use of the strong star property?

- A. It allows "read up."
- B. It addresses covert channels.
- C. It addresses management of access controls.
- D. It allows "write up."

Answer: D

Explanation:

Bell?CLaPadula Confidentiality Model10 The Bell?CLaPadula model is perhaps the most well-known and significant security model, in addition to being one of the oldest models used in the creation of modern secure computing systems. Like the Trusted Computer System Evaluation Criteria (or TCSEC), it was inspired by early U.S. Department of Defense security policies and the need to prove that confidentiality could be maintained. In other words, its primary goal is to prevent disclosure as the model system moves from one state (one point in time) to another.

When the strong star property is not being used it means that both the property and the

Simple Security Property rules would be applied.

The Star (*) property rule of the Bell-LaPadula model says that subjects cannot write down, this would compromise the confidentiality of the information if someone at the secret layer would write the object down to a confidential container for example.

The Simple Security Property rule states that the subject cannot read up which means that a subject at the secret layer would not be able to access objects at Top Secret for example.

You must remember: The model tells you about are NOT allowed to do. Anything else would be allowed. For example within the Bell LaPadula model you would be allowed to write up as it does not compromise the security of the information. In fact it would upgrade it to the point that you could lock yourself out of your own information if you have only a secret security clearance.

The following are incorrect answers because they are all FALSE:

"It allows read up" is incorrect. The "simple security" property forbids read up.

"It addresses covert channels" is incorrect. Covert channels are not addressed by the Bell- LaPadula model.

"It addresses management of access controls" is incorrect. Management of access controls are beyond the scope of the Bell-LaPadula model.

Reference(s) used for this question:

Hernandez CISSP, Steven (2012-12-21). Official (ISC)2 Guide to the CISSP CBK, Third Edition ((ISC)2 Press) (Kindle Locations 17595-17600). Auerbach Publications. Kindle Edition.

NEW QUESTION 133

- (Topic 1)

Which of the following was developed to address some of the weaknesses in Kerberos and uses public key cryptography for the distribution of secret keys and provides additional access control support?

- A. SESAME
- B. RADIUS
- C. KryptoKnight
- D. TACACS+

Answer: A

Explanation:

Secure European System for Applications in a Multi-vendor Environment (SESAME) was developed to address some of the weaknesses in Kerberos and uses public key cryptography for the distribution of secret keys and provides additional access control support.

Reference:

TIPTON, Harold, Official (ISC)2 Guide to the CISSP CBK (2007), page 184. ISC OIG Second Edition, Access Controls, Page 111

NEW QUESTION 136

- (Topic 1)

In which of the following security models is the subject's clearance compared to the object's classification such that specific rules can be applied to control how the subject-to-object interactions take place?

- A. Bell-LaPadula model
- B. Biba model
- C. Access Matrix model
- D. Take-Grant model

Answer: A

Explanation:

The Bell-LAPadula model is also called a multilevel security system because users with different clearances use the system and the system processes data with different classifications. Developed by the US Military in the 1970s.

A security model maps the abstract goals of the policy to information system terms by specifying explicit data structures and techniques necessary to enforce the security policy. A security model is usually represented in mathematics and analytical ideas, which are mapped to system specifications and then developed by programmers through programming code. So we have a policy that encompasses security goals, such as ??each subject must be authenticated and authorized before accessing an object.?? The security model takes this requirement and provides the necessary mathematical formulas, relationships, and logic structure to be followed to accomplish this goal.

A system that employs the Bell-LaPadula model is called a multilevel security system because users with different clearances use the system, and the system processes data at different classification levels. The level at which information is classified determines the handling procedures that should be used. The Bell-LaPadula model is a state machine model that enforces the confidentiality aspects of access control. A matrix and security levels are used to determine if subjects can access different objects. The subject??s clearance is compared to the object??s classification and then specific rules are applied to control how subject-to-object subject-to-object interactions can take place.

Reference(s) used for this question:

Harris, Shon (2012-10-25). CISSP All-in-One Exam Guide, 6th Edition (p. 369). McGraw- Hill. Kindle Edition.

NEW QUESTION 141

- (Topic 1)

Password management falls into which control category?

- A. Compensating
- B. Detective
- C. Preventive
- D. Technical

Answer: C

Explanation:

Password management is an example of preventive control. Proper passwords prevent unauthorized users from accessing a system. There are literally hundreds of different access approaches, control methods, and technologies, both in the physical world and in the virtual electronic world. Each method addresses a different type of access control or a specific access need. For example, access control solutions may incorporate identification and authentication mechanisms, filters, rules, rights, logging and monitoring, policy, and a plethora of other controls. However, despite the diversity of access control methods, all access control systems can be categorized into seven primary categories. The seven main categories of access control are:

1. Directive: Controls designed to specify acceptable rules of behavior within an organization
2. Deterrent: Controls designed to discourage people from violating security directives
3. Preventive: Controls implemented to prevent a security incident or information breach
4. Compensating: Controls implemented to substitute for the loss of primary controls and mitigate risk down to an acceptable level
5. Detective: Controls designed to signal a warning when a security control has been breached
6. Corrective: Controls implemented to remedy circumstance, mitigate damage, or restore controls
7. Recovery: Controls implemented to restore conditions to normal after a security incident

Reference(s) used for this question:
Hernandez CISSP, Steven (2012-12-21). Official (ISC)2 Guide to the CISSP CBK, Third Edition ((ISC)2 Press) (Kindle Locations 1156-1176). Auerbach Publications. Kindle Edition.

NEW QUESTION 145

- (Topic 1)

Which of the following classes is the first level (lower) defined in the TCSEC (Orange Book) as mandatory protection?

- A. B
- B. A
- C. C
- D. D

Answer: A

Explanation:

B level is the first Mandatory Access Control Level.

First published in 1983 and updated in 1985, the TCSEC, frequently referred to as the Orange Book, was a United States Government Department of Defense (DoD) standard that sets basic standards for the implementation of security protections in computing systems. Primarily intended to help the DoD find products that met those basic standards, TCSEC was used to evaluate, classify, and select computer systems being considered for the processing, storage, and retrieval of sensitive or classified information on military and government systems. As such, it was strongly focused on enforcing confidentiality with no focus on other aspects of security such as integrity or availability. Although it has since been superseded by the common criteria, it influenced the development of other product evaluation criteria, and some of its basic approach and terminology continues to be used.

Reference used for this question:

Hernandez CISSP, Steven (2012-12-21). Official (ISC)2 Guide to the CISSP CBK, Third Edition ((ISC)2 Press) (Kindle Locations 17920-17926). Auerbach Publications. Kindle Edition.

and

THE source for all TCSEC "level" questions: <http://csrc.nist.gov/publications/secpubs/rainbow/std001.txt> (paragraph 3 for this one)

NEW QUESTION 146

- (Topic 1)

What security model is dependent on security labels?

- A. Discretionary access control
- B. Label-based access control
- C. Mandatory access control
- D. Non-discretionary access control

Answer: C

Explanation:

With mandatory access control (MAC), the authorization of a subject's access to an object is dependant upon labels, which indicate the subject's clearance, and the classification or sensitivity of the object. Label-based access control is not defined. Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, John Wiley & Sons, 2001, Chapter 2: Access control systems (page 33).

NEW QUESTION 147

- (Topic 1)

Which of the following classes is defined in the TCSEC (Orange Book) as discretionary protection?

- A. C
- B. B
- C. A
- D. D

Answer: A

Explanation:

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, page 197.

Also: THE source for all TCSEC "level" questions: <http://csrc.nist.gov/publications/secpubs/rainbow/std001.txt>

NEW QUESTION 149

- (Topic 1)

What is the difference between Access Control Lists (ACLs) and Capability Tables?

- A. Access control lists are related/attached to a subject whereas capability tables are related/attached to an object.
- B. Access control lists are related/attached to an object whereas capability tables are related/attached to a subject.

- C. Capability tables are used for objects whereas access control lists are used for users.
D. They are basically the same.

Answer: B

Explanation:

Capability tables are used to track, manage and apply controls based on the object and rights, or capabilities of a subject. For example, a table identifies the object, specifies access rights allowed for a subject, and permits access based on the user's possession of a capability (or ticket) for the object. It is a row within the matrix.

To put it another way, A capability table is different from an ACL because the subject is bound to the capability table, whereas the object is bound to the ACL.

CLEMENT NOTE:

If we wish to express this very simply:

Capabilities are attached to a subject and it describes what access the subject has to each of the objects on the row that matches with the subject within the matrix.

It is a row within the matrix.

ACL's are attached to objects, it describes who has access to the object and what type of access they have. It is a column within the matrix.

The following are incorrect answers:

"Access control lists are subject-based whereas capability tables are object-based" is incorrect.

"Capability tables are used for objects whereas access control lists are used for users" is incorrect.

"They are basically the same" is incorrect. References used for this question:

CBK, pp. 191 - 192

AIO3 p. 169

NEW QUESTION 151

- (Topic 1)

Which type of password provides maximum security because a new password is required for each new log-on?

- A. One-time or dynamic password
B. Cognitive password
C. Static password
D. Passphrase

Answer: A

Explanation:

"one-time password" provides maximum security because a new password is required for each new log-on.

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 36.

NEW QUESTION 155

- (Topic 1)

Which of the following questions is less likely to help in assessing physical and environmental protection?

- A. Are entry codes changed periodically?
B. Are appropriate fire suppression and prevention devices installed and working?
C. Are there processes to ensure that unauthorized individuals cannot read, copy, alter, or steal printed or electronic information?
D. Is physical access to data transmission lines controlled?

Answer: C

Explanation:

Physical security and environmental security are part of operational controls, and are measures taken to protect systems, buildings, and related supporting infrastructures against threats associated with their physical environment. All the questions above are useful in assessing physical and environmental protection except for the one regarding processes that ensure that unauthorized individuals cannot access information, which is more a production control.

Source: SWANSON, Marianne, NIST Special Publication 800-26, Security Self-Assessment Guide for Information Technology Systems, November 2001 (Pages A-21 to A-24).

NEW QUESTION 158

- (Topic 1)

How should a doorway of a manned facility with automatic locks be configured?

- A. It should be configured to be fail-secure.
B. It should be configured to be fail-safe.
C. It should have a door delay cipher lock.
D. It should not allow piggybacking.

Answer: B

Explanation:

Access controls are meant to protect facilities and computers as well as people.

In some situations, the objectives of physical access controls and the protection of people's lives may come into conflict. In these situations, a person's life always takes precedence.

Many physical security controls make entry into and out of a facility hard, if not impossible. However, special consideration needs to be taken when this could affect lives. In an information processing facility, different types of locks can be used and piggybacking should be prevented, but the issue here with automatic locks is that they can either be configured as fail-safe or fail-secure.

Since there should only be one access door to an information processing facility, the

automatic lock to the only door to a man-operated room must be configured to allow people out in case of emergency, hence to be fail-safe (sometimes called fail-open), meaning that upon fire alarm activation or electric power failure, the locking device unlocks. This is because the solenoid that maintains power to the lock to keep it in a locked state fails and thus opens or unlocks the electronic lock.

Fail Secure works just the other way. The lock device is in a locked or secure state with no power applied. Upon authorized entry, a solenoid unlocks the lock temporarily. Thus in a Fail Secure lock, loss of power or fire alarm activation causes the lock to remain in a secure mode.

Reference(s) used for this question:

Harris, Shon (2012-10-18). CISSP All-in-One Exam Guide, 6th Edition (p. 451). McGraw- Hill. Kindle Edition.
and

Hernandez CISSP, Steven (2012-12-21). Official (ISC)2 Guide to the CISSP CBK, Third Edition ((ISC)2 Press) (Kindle Locations 20249-20251). Auerbach Publications. Kindle Edition.

NEW QUESTION 161

- (Topic 1)

Which of the following is NOT a form of detective administrative control?

- A. Rotation of duties
- B. Required vacations
- C. Separation of duties
- D. Security reviews and audits

Answer: C

Explanation:

Detective administrative controls warn of administrative control violations. Rotation of duties, required vacations and security reviews and audits are forms of detective administrative controls. Separation of duties is the practice of dividing the steps in a system function among different individuals, so as to keep a single individual from subverting the process, thus a preventive control rather than a detective control.

Source: DUPUIS, Clément, Access Control Systems and Methodology CISSP Open Study Guide, version 1.0 (march 2002).

NEW QUESTION 162

- (Topic 1)

Which of the following statements pertaining to RADIUS is incorrect:

- A. A RADIUS server can act as a proxy server, forwarding client requests to other authentication domains.
- B. Most of RADIUS clients have a capability to query secondary RADIUS servers for redundancy.
- C. Most RADIUS servers have built-in database connectivity for billing and reporting purposes.
- D. Most RADIUS servers can work with DIAMETER servers.

Answer: D

Explanation:

This is the correct answer because it is FALSE.

Diameter is an AAA protocol, AAA stands for authentication, authorization and accounting protocol for computer networks, and it is a successor to RADIUS.

The name is a pun on the RADIUS protocol, which is the predecessor (a diameter is twice the radius).

The main differences are as follows:

Reliable transport protocols (TCP or SCTP, not UDP)

The IETF is in the process of standardizing TCP Transport for RADIUS Network or transport layer security (IPsec or TLS)

The IETF is in the process of standardizing Transport Layer Security for RADIUS Transition support for RADIUS, although Diameter is not fully compatible with RADIUS Larger address space for attribute-value pairs (AVPs) and identifiers (32 bits instead of 8 bits)

Client?Cserver protocol, with exception of supporting some server-initiated messages as well Both stateful and stateless models can be used

Dynamic discovery of peers (using DNS SRV and NAPTR) Capability negotiation

Supports application layer acknowledgements, defines failover methods and state machines (RFC 3539)

Error notification Better roaming support

More easily extended; new commands and attributes can be defined Aligned on 32-bit boundaries

Basic support for user-sessions and accounting

A Diameter Application is not a software application, but a protocol based on the Diameter base protocol (defined in RFC 3588). Each application is defined by an application identifier and can add new command codes and/or new mandatory AVPs. Adding a new optional AVP does not require a new application.

Examples of Diameter applications:

Diameter Mobile IPv4 Application (MobileIP, RFC 4004)

Diameter Network Access Server Application (NASREQ, RFC 4005) Diameter Extensible Authentication Protocol (EAP) Application (RFC 4072) Diameter Credit-Control Application (DCCA, RFC 4006)

Diameter Session Initiation Protocol Application (RFC 4740) Various applications in the 3GPP IP Multimedia Subsystem

All of the other choices presented are true. So Diameter is backwork compatible with Radius (to some extent) but the opposite is false.

Reference(s) used for this question:

TIPTON, Harold F. & KRAUSE, MICKI, Information Security Management Handbook, 4th Edition, Volume 2, 2001, CRC Press, NY, Page 38.

and https://secure.wikimedia.org/wikipedia/en/wiki/Diameter_%28protocol%29

NEW QUESTION 167

- (Topic 2)

Related to information security, availability is the opposite of which of the following?

- A. delegation
- B. distribution
- C. documentation
- D. destruction

Answer: D

Explanation:

Availability is the opposite of "destruction."

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 59.

NEW QUESTION 169

- (Topic 2)

Making sure that only those who are supposed to access the data can access is which of the following?

- A. confidentiality.
- B. capability.
- C. integrity.
- D. availability.

Answer: A

Explanation:

From the published (ISC)2 goals for the Certified Information Systems Security Professional candidate, domain definition. Confidentiality is making sure that only those who are supposed to access the data can access it.

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 59.

NEW QUESTION 172

- (Topic 2)

Which of the following should NOT be performed by an operator?

- A. Implementing the initial program load
- B. Monitoring execution of the system
- C. Data entry
- D. Controlling job flow

Answer: C

Explanation:

Under the principle of separation of duties, an operator should not be performing data entry. This should be left to data entry personnel.

System operators represent a class of users typically found in data center environments where mainframe systems are used. They provide day-to-day operations of the mainframe environment, ensuring that scheduled jobs are running effectively and troubleshooting problems that may arise. They also act as the arms and legs of the mainframe environment, load and unloading tape and results of job print runs. Operators have elevated privileges, but less than those of system administrators. If misused, these privileges may be used to circumvent the system's security policy. As such, use of these privileges should be monitored through audit logs.

Some of the privileges and responsibilities assigned to operators include:

Implementing the initial program load: This is used to start the operating system. The boot process or initial program load of a system is a critical time for ensuring system security. Interruptions to this process may reduce the integrity of the system or cause the system to crash, precluding its availability.

Monitoring execution of the system: Operators respond to various events, to include errors, interruptions, and job completion messages.

Volume mounting: This allows the desired application access to the system and its data. Controlling job flow: Operators can initiate, pause, or terminate programs. This may allow

an operator to affect the scheduling of jobs. Controlling job flow involves the manipulation

of configuration information needed by the system. Operators with the ability to control a job or application can cause output to be altered or diverted, which can threaten the confidentiality.

Bypass label processing: This allows the operator to bypass security label information to run foreign tapes (foreign tapes are those from a different data center that would not be using the same label format that the system could run). This privilege should be strictly controlled to prevent unauthorized access.

Renaming and relabeling resources: This is sometimes necessary in the mainframe environment to allow programs to properly execute. Use of this privilege should be monitored, as it can allow the unauthorized viewing of sensitive information.

Reassignment of ports and lines: Operators are allowed to reassign ports or lines. If misused, reassignment can cause program errors, such as sending sensitive output to an unsecured location. Furthermore, an incidental port may be opened, subjecting the system to an attack through the creation of a new entry point into the system.

Reference(s) used for this question:

Hernandez CISSP, Steven (2012-12-21). Official (ISC)2 Guide to the CISSP CBK, Third Edition ((ISC)2 Press) (Kindle Locations 19367-19395). Auerbach Publications. Kindle Edition.

NEW QUESTION 175

- (Topic 2)

Which of the following statements pertaining to the security kernel is incorrect?

- A. The security kernel is made up of mechanisms that fall under the TCB and implements and enforces the reference monitor concept.
- B. The security kernel must provide isolation for the processes carrying out the reference monitor concept and they must be tamperproof.
- C. The security kernel must be small enough to be able to be tested and verified in a complete and comprehensive manner.
- D. The security kernel is an access control concept, not an actual physical component.

Answer: D

Explanation:

The reference monitor, not the security kernel is an access control concept.

The security kernel is made up of software, and firmware components that fall within the TCB and implements and enforces the reference monitor concept. The security kernel mediates all access and functions between subjects and objects. The security kernel is the core of the TCB and is the most commonly used approach to building trusted computing systems.

There are three main requirements of the security kernel:

- It must provide isolation for the processes carrying out the reference monitor concept, and the processes must be tamperproof.
- It must be invoked for every access attempt and must be impossible to circumvent. Thus, the security kernel must be implemented in a complete and foolproof way.
- It must be small enough to be able to be tested and verified in a complete and comprehensive manner.

The following answers are incorrect:

The security kernel is made up of mechanisms that fall under the TCB and implements and enforces the reference monitor concept. Is incorrect because this is the definition of the security kernel.

The security kernel must provide isolation for the processes carrying out the reference monitor concept and they must be tamperproof. Is incorrect because this is one of the three requirements that make up the security kernel.

The security kernel must be small enough to be able to be tested and verified in a complete and comprehensive manner. Is incorrect because this is one of the three requirements that make up the security kernel.

NEW QUESTION 177

- (Topic 2)

Which software development model is actually a meta-model that incorporates a number of the software development models?

- A. The Waterfall model
- B. The modified Waterfall model
- C. The Spiral model
- D. The Critical Path Model (CPM)

Answer: C

Explanation:

The spiral model is actually a meta-model that incorporates a number of the software development models. This model depicts a spiral that incorporates the various phases of software development. The model states that each cycle of the spiral involves the same series of steps for each part of the project. CPM refers to the Critical Path Methodology.

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, John Wiley & Sons, 2001, Chapter 7: Applications and Systems Development (page 246).

NEW QUESTION 181

- (Topic 2)

Which of the following is best defined as a mode of system termination that automatically leaves system processes and components in a secure state when a failure occurs or is detected in a system?

- A. Fail proof
- B. Fail soft
- C. Fail safe
- D. Fail Over

Answer: C

Explanation:

NOTE: This question is referring to a system which is Logical/Technical, so it is in the context of a system that you must choose the right answer. This is very important to read the question carefully and to identify the context whether it is in the Physical world or in the Technical/Logical world.

RFC 2828 (Internet Security Glossary) defines fail safe as a mode of system termination that automatically leaves system processes and components in a secure state when a failure occurs or is detected in the system.

A secure state means in the Logical/Technical world that no access would be granted or no packets would be allowed to flow through the system inspecting the packets such as a firewall for example.

If the question would have made reference to a building or something specific to the Physical world then the answer would have been different. In the Physical World everything becomes open and full access would be granted. See the valid choices below for the Physical context.

Fail-safe in the physical security world is when doors are unlocked automatically in case of emergency. Used in environment where humans work around. As human safety is prime concern during Fire or other hazards.

The following were all wrong choices:

Fail-secure in the physical security world is when doors are locked automatically in case of emergency. Can be in an area like Cash Locker Room provided there should be alternative manually operated exit door in case of emergency.

Fail soft is selective termination of affected non-essential system functions and processes when a failure occurs or is detected in the system.

Fail Over is a redundancy mechanism and does not apply to this question.

There is a great post within the CCCure Forums on this specific QUESTION NO: :

saintrockz who is a long term contributor to the forums did outstanding research and you have the results below. The CCCure forum is a gold mine where thousands of QUESTION NO: s related to the CBK have been discussed.

According to the Official ISC2 Study Guide (OIG):

Fault Tolerance is defined as built-in capability of a system to provide continued correct execution in the presence of a limited number of hardware or software faults. It means a system can operate in the presence of hardware component failures. A single component failure in a fault-tolerant system will not cause a system interruption because the alternate component will take over the task transparently. As the cost of components continues to drop, and the demand for system availability increases, many non-fault-tolerant systems have redundancy built-in at the subsystem level. As a result, many non-fault-tolerant systems can tolerate hardware faults - consequently, the line between a fault-tolerant system and a non-fault-tolerant system becomes increasingly blurred.

According to Common Criteria:

Fail Secure - Failure with preservation of secure state, which requires that the TSF (TOE security functions) preserve a secure state in the face of the identified failures.

Acc. to The CISSP Prep Guide, Gold Ed.:

Fail over - When one system/application fails, operations will automatically switch to the backup system.

Fail safe - Pertaining to the automatic protection of programs and/or processing systems to maintain safety when a hardware or software failure is detected in a system.

Fail secure - The system preserves a secure state during and after identified failures occur. Fail soft - Pertaining to the selective termination of affected non-essential processing when a hardware or software failure is detected in a system.

Acc. to CISSP for Dummies:

Fail closed - A control failure that results all accesses blocked. Fail open - A control failure that results in all accesses permitted.

Failover - A failure mode where, if a hardware or software failure is detected, the system automatically transfers processing to a hot backup component, such as a clustered server. Fail-safe - A failure mode where, if a hardware or software failure is detected, program execution is terminated, and the system is protected from compromise.

Fail-soft (or resilient) - A failure mode where, if a hardware or software failure is detected, certain, noncritical processing is terminated, and the computer or network continues to function in a degraded mode.

Fault-tolerant - A system that continues to operate following failure of a computer or network component.

It's good to differentiate this concept in Physical Security as well: Fail-safe

- Door defaults to being unlocked
- Dictated by fire codes

Fail-secure

- Door defaults to being locked

Reference(s) used for this question:

SHIREY, Robert W., RFC2828: Internet Security Glossary, may 2000.

NEW QUESTION 184

- (Topic 2)

Which of the following is used to interrupt the opportunity to use or perform collusion to subvert operation for fraudulent purposes?

- A. Key escrow
- B. Rotation of duties
- C. Principle of need-to-know
- D. Principle of least privilege

Answer: B

Explanation:

Job rotations reduce the risk of collusion of activities between individuals. Companies with individuals working with sensitive information or systems where there might be the opportunity for personal gain through collusion can benefit by integrating job rotation with segregation of duties. Rotating the position may uncover activities that the individual is performing outside of the normal operating procedures, highlighting errors or fraudulent behavior.

Rotation of duties is a method of reducing the risk associated with a subject performing a (sensitive) task by limiting the amount of time the subject is assigned to perform the task before being moved to a different task.

The following are incorrect answers:

Key escrow is related to the protection of keys in storage by splitting the key in pieces that will be controlled by different departments. Key escrow is the process of ensuring a third party maintains a copy of a private key or key needed to decrypt information. Key escrow also should be considered mandatory for most organization's use of cryptography as encrypted information belongs to the organization and not the individual; however often an individual's key is used to encrypt the information.

Separation of duties is a basic control that prevents or detects errors and irregularities by assigning responsibility for different parts of critical tasks to separate individuals, thus limiting the effect a single person can have on a system. One individual should not have the capability to execute all of the steps of a particular process. This is especially important in critical business areas, where individuals may have greater access and capability to modify, delete, or add data to the system. Failure to separate duties could result in individuals embezzling money from the company without the involvement of others.

The need-to-know principle specifies that a person must not only be cleared to access classified or other sensitive information, but have requirement for such information to carry out assigned job duties. Ordinary or limited user accounts are what most users are assigned. They should be restricted only to those privileges that are strictly required, following the principle of least privilege. Access should be limited to specific objects following the principle of need-to-know.

The principle of least privilege requires that each subject in a system be granted the most restrictive set of privileges (or lowest clearance) needed for the performance of authorized tasks. Least privilege refers to granting users only the accesses that are required to perform their job functions. Some employees will require greater access than others based upon their job functions. For example, an individual performing data entry on a mainframe system may have no need for Internet access or the ability to run reports regarding the information that they are entering into the system. Conversely, a supervisor may have the need to run reports, but should not be provided the capability to change information in the database.

Reference(s) used for this question:

Hernandez CISSP, Steven (2012-12-21). Official (ISC)2 Guide to the CISSP CBK, Third Edition ((ISC)2 Press) (Kindle Locations 10628-10631). Auerbach Publications. Kindle Edition.

Hernandez CISSP, Steven (2012-12-21). Official (ISC)2 Guide to the CISSP CBK, Third Edition ((ISC)2 Press) (Kindle Locations 10635-10638). Auerbach Publications. Kindle Edition.

Hernandez CISSP, Steven (2012-12-21). Official (ISC)2 Guide to the CISSP CBK, Third Edition ((ISC)2 Press) (Kindle Locations 10693-10697). Auerbach Publications. Kindle Edition.

Hernandez CISSP, Steven (2012-12-21). Official (ISC)2 Guide to the CISSP CBK, Third Edition ((ISC)2 Press) (Kindle Locations 16338-16341). Auerbach Publications. Kindle Edition.

NEW QUESTION 186

- (Topic 2)

What can best be described as an abstract machine which must mediate all access to subjects to objects?

- A. A security domain
- B. The reference monitor
- C. The security kernel
- D. The security perimeter

Answer: B

Explanation:

The reference monitor is an abstract machine which must mediate all access to subjects to objects, be protected from modification, be verifiable as correct, and is always invoked. The security kernel is the hardware, firmware and software elements of a trusted computing base that implement the reference monitor concept.

The security perimeter includes the security kernel as well as other security-related system functions that are within the boundary of the trusted computing base.

System elements that are outside of the security perimeter need not be trusted. A security domain is a domain of trust that shares a single security policy and single management.

Source: TIPTON, Hal, (ISC)2, Introduction to the CISSP Exam presentation.

NEW QUESTION 191

- (Topic 2)

Within the context of the CBK, which of the following provides a MINIMUM level of security ACCEPTABLE for an environment ?

- A. A baseline
- B. A standard
- C. A procedure
- D. A guideline

Answer: A

Explanation:

Baselines provide the minimum level of security necessary throughout the organization.

Standards specify how hardware and software products should be used throughout the organization.

Procedures are detailed step-by-step instruction on how to achieve certain tasks. Guidelines are recommendation actions and operational guides to personnel when a

specific standard does not apply.

Source: HARRIS, Shon, All-In-One CISSP Certification Exam Guide, McGraw- Hill/Osborne, 2002, chapter 3: Security Management Practices (page 94).

NEW QUESTION 195

- (Topic 2)

Who is ultimately responsible for the security of computer based information systems within an organization?

- A. The tech support team
- B. The Operation Team.
- C. The management team.
- D. The training team.

Answer: C

Explanation:

If there is no support by management to implement, execute, and enforce security policies and procedure, then they won't work. Senior management must be involved in this because they have an obligation to the organization to protect the assests . The requirement here is for management to show ??due diligence?? in establishing an effective compliance, or security program.

The following answers are incorrect:

The tech support team. Is incorrect because the ultimate responsibility is with management for the security of computer-based information systems.

The Operation Team. Is incorrect because the ultimate responsibility is with management for the security of computer-based information systems.

The Training Team. Is incorrect because the ultimate responsibility is with management for the security of computer-based information systems.

Reference(s) used for this question:

OIG CBK Information Security Management and Risk Management (page 20 - 22)

NEW QUESTION 199

- (Topic 2)

Which of the following is responsible for MOST of the security issues?

- A. Outside espionage
- B. Hackers
- C. Personnel
- D. Equipment failure

Answer: C

Explanation:

Personnel cause more security issues than hacker attacks, outside espionage, or equipment failure.

The following answers are incorrect because:

Outside espionage is incorrect as it is not the best answer. Hackers is also incorrect as it is not the best answer. Equipment failure is also incorrect as it is not the best answer.

Reference : Shon Harris AIO v3 , Chapter-3: Security Management Practices , Page : 56

NEW QUESTION 202

- (Topic 2)

Which of the following is most concerned with personnel security?

- A. Management controls
- B. Operational controls
- C. Technical controls
- D. Human resources controls

Answer: B

Explanation:

Many important issues in computer security involve human users, designers, implementers, and managers.

A broad range of security issues relates to how these individuals interact with computers and the access and authorities they need to do their jobs. Since operational controls address security methods focusing on mechanisms primarily implemented and executed by people (as opposed to systems), personnel security is considered a form of operational control.

Operational controls are put in place to improve security of a particular system (or group of systems). They often require specialized expertise and often rely upon management activities as well as technical controls. Implementing dual control and making sure that you have more than one person that can perform a task would fall into this category as well.

Management controls focus on the management of the IT security system and the management of risk for a system. They are techniques and concerns that are normally addressed by management.

Technical controls focus on security controls that the computer system executes. The controls can provide automated protection for unauthorized access of misuse, facilitate detection of security violations, and support security requirements for applications and data.

Reference use for this question:

NIST SP 800-53 Revision 4 <http://dx.doi.org/10.6028/NIST.SP.800-53r4> You can get it as a word document by clicking [HERE](#)

NIST SP 800-53 Revision 4 has superseded the document below:

SWANSON, Marianne, NIST Special Publication 800-26, Security Self-Assessment Guide for Information Technology Systems, November 2001 (Page A-18).

NEW QUESTION 204

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